

What is claimed is:

1. A method of storage device space management for storing stream data on storage devices of a streaming server where stream data transfers occur in 5 rounds of fixed duration, comprising

dividing the stream data into segments of stream data where each of the segments comprises an amount of stream data retrieved from the storage space of one storage device in response to one retrieval request;

10 allocating storage space of the storage devices in strides where each of the strides comprises a contiguous chunk of storage space and that each of the strides is sized for storing at least one segment; and

15 storing the segments in the strides.
2. The method of claim 1, wherein the strides are of a predetermined fixed size.
- 20 3. The method of claim 1, wherein the strides are of variable sizes.
4. The method of claim 1, wherein stream data is stored on the disks using fixed-grain striping.
- 25 5. The method of claim 2, wherein stream data is stored on the disks using fixed-grain striping.
6. The method of claim 3, wherein stream data is stored on the storage devices using fixed-grain striping.

30 7. The method of claim 1, wherein stream data is stored on the storage devices using group-grain striping.

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8. The method of claim 2, wherein stream data is stored on the storage devices using group-grain striping.

9. The method of claim 3, wherein stream data is stored on the storage devices using group-grain striping.

10. An array of storage devices for a streaming server having storage space management for storing stream data, where stream data transfers occur in rounds of fixed duration, the storage device space management comprising

10 dividing the stream data into segments of stream data where each of the segments comprises an amount of stream data retrieved from the storage space of one storage device in response to one retrieval request;

15 allocating storage space of the storage devices in strides where each of the strides comprises a contiguous chunk of storage space and that each of the strides is sized for storing at least one segment; and

20 storing the segments in the strides.

20 wherein at least one segment of stream data is retrieved for transfer during one of the rounds.

11. The storage device space management of claim 10, wherein the strides are 25 of a predetermined fixed size.

12. The storage device space management of claim 10, wherein the strides are of variable sizes.

30 13. The storage device space management of claim 10, wherein stream data is stored on the storage devices using fixed-grain striping.

14. The storage device space management of claim 11, wherein stream data is stored on the storage devices using fixed-grain striping.

15. The storage device space management of claim 12, wherein stream data is stored on the storage devices using fixed-grain striping.
- 5 16. The storage device space management of claim 10, wherein stream data is stored on the storage devices using group-grain striping.
17. The storage device space management of claim 11, wherein stream data is stored on the storage devices using group-grain striping.
- 10 18. The storage device space management of claim 12, wherein stream data is stored on the storage devices using group-grain striping.

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